MCHB-TS-HPR
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TECHNICAL REPORT
Health Promotion and Prevention Initiatives (HPPI) Program
Suicide prevention initiatives

1. Purpose. This report summarizes Health Promotion and Prevention Initiatives (HPPI) Program outcomes, evaluation, and funding of suicide prevention projects for FY01 to FY02. This summary includes only HPPI-funded initiatives; other US Army Center for Health Promotion and Preventive Medicine (USACHPPM), US Army Medical Department (AMEDD), or Department of Defense (DoD) efforts related to suicide prevention are not discussed.

2. Background.

a. Suicide prevention in the military. The prevention of suicide in the military is a high priority. All military branches have robust suicide prevention plans and mandate periodic suicide awareness training. Although training approaches vary slightly between services, suicide prevention efforts in all services seek to reduce modifiable risk factors, strengthen protective factors, and teach service members how to identify and respond to suicide risk.

b. Prevalence. The Recruit Medicine Textbook (1) cites the following data regarding suicide prevalence in the military: before 1958, suicide rates within the military were higher than the rates among similar-aged civilians. In addition, before 1958, rates of suicide were significantly higher among officers than enlisted personnel. However, over time, these rates have reversed: the military now has lower rates of suicide than the civilian population, and enlisted suicide rates are now approximately twice those of officers.

c. Interpretation of suicide statistics. Suicide rates are often used as an indicator of suicide prevention program effectiveness (if the rates decrease) or as an indicator of increased incidence (if the rates increase). However, suicide statistics are difficult to calculate and interpret correctly. Since suicides are rare events, a single incident can cause the rate to jump sharply in a positive or negative direction. Normal statistical distributions cannot be used to interpret suicide data. The correct statistical processes for suicide data interpretation are difficult to apply correctly. In addition, surveillance data is unreliable. Also, there is a lack of universally accepted criteria with which to categorize suicidal behaviors. As such, suicide statistics should not be considered as wholly reliable indicators of suicide incidence. Neither are these statistics reliable indicators of suicide prevention program effectiveness.

d. Risk factors. Active duty military populations experience high levels of stress related to combat, deployment, and separation from family and support systems. Additional risk factors specific to the recruit population can include the pressures of the training environment, limited life experience, rapid social and environmental change, and homesickness. An assessment of Soldiers who have committed suicide has also indicates that younger Soldiers' suicides were most often attributable to an act of impulsiveness or poor life-coping skills.

e. Protective factors. According to the Department of Health and Human Services (2), a number of protective factors have been identified that buffer people from the risks associated with suicide. These factors include easy access to a variety of clinical interventions and support for help-seeking; family and community support; and skills in problem solving, conflict resolution, and nonviolent handling of disputes. The Recruit Medicine Textbook (1) also suggests that the structure of military service and the military training environment often serve a protective function by controlling environmental risk factors such as alcohol and drug abuse, providing a closed community with accessible support services, and making psychological interventions readily available.

3. Army Suicide Prevention Plan.

a. Plan background. In 2000, an Army Suicide Prevention Plan was created in response to increased incidence of suicide in the Army. This plan is currently under review, with expected revisions to be completed during FY07.

b. Components. The Army Suicide Prevention Plan has four major components: prevention, intervention, safety, and leadership responsibility.

1) Prevention. The purpose of prevention is to teach resiliency skills to all Soldiers, identify high-risk individuals, and educate leaders to recognize warning signs.

2) Intervention. The goal of intervention is to recognize when an individual is at-risk and provide the Soldier with the professional assistance needed before a crisis event occurs.

3) Safety. The third plan component includes efforts to properly secure Soldiers identified as at-risk for suicidal behavior.

4) Leadership responsibility. The Army Suicide Prevention Plan was designed to help installation commanders refine their own suicide prevention policies and programs as outlined in Army Regulation (AR) 600-63 and AR 600-24. Per Headquarters, Department of the Army, the suicide prevention program is a commander's program. The commander is supported by leaders, cadre, chaplains, mental health professionals, and other personnel to ensure program success.

c. Suicide awareness training. The goals of the Army Suicide Prevention Plan are accomplished through delivery of suicide awareness training for all Soldiers on a periodic basis (usually every 12 to 24 months) and through additional training provided to front-line leaders, chaplains, medical personnel, and others. Leaders and "gatekeepers" (those who work closely with Soldiers) receive training in the ASIST (Applied Suicide Intervention Skills Training) program. This two-day course provides a brief introduction to suicide prevention and trains individuals to recognize a person at-risk for suicide.

4. HPPI Program impact.

a. Purpose. The HPPI Program uses a competitive process to fund unique and innovative projects that demonstrate potential as best approaches to health promotion and preventive

medicine in the US Army. These best approaches are recommended for proliferation across the Army or targeted toward specific Military Health Care System populations. The purpose of the HPPI Program is to enhance force readiness through health promotion.

b. Oversight. Since FY97, USACHPPM has developed, refined, and managed HPPI initiatives for the AMEDD, with funds made available from the Office of the Assistant Secretary of Defense for Health Affairs (OASD HA).

c. Implementation sites. Three sites were chosen by the HPPI Program to receive funding for suicide prevention projects in FY01 and FY02. The projects at these sites were directed towards Initial Entry Training (IET) and Advanced Individual Training (AIT) Soldiers. Each site had varying population size, as shown in Table 1.

Table 1: Project implementation sites

Location	Population size
Site 1	20,000 - 24,000 Soldiers yearly
Site 2	3,500 Soldiers yearly
Site 3	538 Soldiers, civilians, and others

d. Funding summary. The HPPI Program provided funding for Sites 1 and 2 in FY01 and FY02; Site 3 was funded only for FY01. These projects received total HPPI funding of $263,000.

5. HPPI initiative implementation.

a. All three HPPI suicide prevention initiatives included Soldier screening, follow-up care as needed, and ASIST training.

b. Screening and follow-up care. Each installation differed slightly in the approach used for screening Soldiers for suicide risk and in the type of follow-up care provided.

1) Site 1. A self-screening tool was available for all personnel. Self-directed follow-up care was available through chaplains, Community Mental Health, and other resource agencies at the installation.

2) Site 2. Aggressive screening of AIT personnel was conducted, because screening recruits for dysfunctional behavior during the early stages of training has been found to be beneficial in preventing suicide. All in-processing Soldiers were given the 12-question Goldberg General Health Questionnaire (GHQ) as an initial well-being screen. The 60-question Spiritual Assessment and Resilience Inventory (SRA) was also given to Soldiers who scored a 4 or below on the GHQ. Soldiers who fell below a designated threshold for the SRA received follow-up care, which included assignment to a 6-week mentoring group and/or referral to other resource agencies on post.

3) Site 3. This site also conducted screening using the GHQ. At-risk soldiers were given initial intake counseling. Care was coordinated with the chain of command.

c. ASIST training. All three HPPI initiatives provided ASIST training to leadership and other gatekeepers at the installation. This training taught participants to recognize a person at-risk for suicide. The training also provided individuals with the confidence and tools to take immediate life-saving actions with a person at-risk for suicide until the individual could be safely secured and seen by a mental health care professional.

6. Findings and discussion.

a. Screening. Additional personnel hired to conduct Soldier screenings and coordinate care plans required dedicated funding and was by far the most expensive part of these initiatives. However, finding and caring for at-risk Soldiers not only served the target population, but also had a positive impact on the ability to effectively complete the mission.

b. Benefits of standardized training. Using a standardized suicide prevention training program (ASIST) provided a common language. The ability of cadre, drill instructors, chaplains and other caregivers to communicate using the same language proved valuable to the early assessment and intervention for at-risk Soldiers.

c. Command support. This support enhanced coordination and collaboration between line personnel and caregivers. Command support also created buy-in for care plans and resulted in on-going support for Soldiers.

d. Training focus. The focus of leadership training should be to prepare leaders and cadre to identify at-risk individuals and provide immediate first aid response to those individuals until they can be seen by a trained, professional mental health care provider. The purpose of leadership suicide prevention training should not be to produce personnel qualified to diagnose mental disorders or to treat suicidal individuals.

7. Outcome evaluation.

a. Evaluation limitations. Individual project impact and effectiveness was difficult to determine. The number of Soldiers responding to surveys and attending support groups was small. Long-term follow-up of those trained in ASIST was not possible due to changes in duty assignments.

b. Assessing cause and effect. During the implementation period for these HPPI projects, none of the project sites experienced any completed suicides in the target population. However, as noted in the background section of this report, direct cause and effect relationships between suicide prevention programs and suicide rates cannot be conclusively determined.

c. Process measurements. Each site kept track of the numbers of Soldiers screened and the number and type of personnel trained in ASIST. Some sites also tracked the number of Soldiers who participated in and completed support groups. All sites reported giving numerous briefings to leadership. A summary of the primary process measures for all three sites is shown in Table 2.

Table 2: Screening and ASIST program training summary by site			
Location	**Soldiers screened**	**Number trained in ASIST**	**Specific personnel trained in ASIST**
Site 1	9,000	171	Cadre, commanders, drill instructors, mental health professionals, military police, other first responders
Site 2	4,577	104	Chaplains, drill instructors, commanders
Site 3	200*	23	Leaders and cadre; 3 psychiatric nurses trained as ASIST "master trainers" (these trainers were able to train other individuals for two years beyond the original HPPI project)

**The main project focus for Site 3 was conducting ASIST; therefore smaller numbers of Soldiers were screened.*

d. Impact of mentoring program. Site 2 conducted a pre- and post-assessment of Soldiers who received care as a result of the suicide prevention screening. These Soldiers completed the SRA assessment before and after a six-week mentoring program. Statistical analysis of the data showed significant increases in mean SRA scores from the pre-test to the post-test ($p<0.01$).

e. Graduation and attrition rates. Evidence suggests that trainee-support programs which enhance life-coping skills and resiliency helped improve Soldier retention and graduation rates.

1) Site 1 reported that the brigade attrition rate for non-graduation decreased from 5% to 4.5% in during the project time frame reported to the HPPI Program.

2) Site 2 assessed 2745 AIT soldiers for suicidal ideation and behavior. After assessing these Soldiers with both the GHQ and the SRA, a total of 226 Soldiers were deemed at-risk for suicide. These Soldiers were therefore enrolled in a mandatory 6-week Soldier support group. Project implementers noted that the graduation rate increased by 7% (45 Soldiers) when compared to the previous year; however, direct correlation between support group completion and increased graduation rate could not be demonstrated conclusively.

8. Evaluation of ASIST.

a. Training evaluation. A survey was developed to determine the effectiveness of ASIST in teaching basic suicide prevention intervention skills. The internet-based survey was given to personnel at all three sites who had attended ASIST. Survey questions are listed in Table 3.

Table 3: ASIST evaluation survey questions
1. At what post are you currently stationed?
2. At what post were you stationed when you attended ASIST?
3. What is your principal duty title?
4. How long was the ASIST program that you attended?
(Questions 5 through 7 used the scale of: strongly disagree, disagree, undecided, agree, strongly agree)
5. Because of ASIST, I feel better prepared to recognize the signs of a Soldier at-risk for suicidal behavior.
6. Because of ASIST, I feel more confident in my ability to help those at-risk of suicide.
7. ASIST should be given to all personnel that interact closely with Soldiers.

b. Data limitations. Survey response sets were small. The list of duty titles that survey participants could choose from for Question 3 was not broad enough, as demonstrated by 69% of

responses in the 'other' category. Participants were not asked when and where they attended ASIST; there may have been variations in instruction or other variables which impacted attendee perceptions of the training. The survey was administered by a third party, so quality assurance/quality control was not possible.

c. Survey results. There were 75 completed surveys. The majority of the responses for questions 5 through 7 were in the "agree" or "strongly agree" category, as shown in Table 4.

Table 4: Number of responses in each category, questions 5 through 7

Question	Strongly agree or agree	Undecided	Disagree or strongly disagree
5. Because of ASIST, I feel better prepared to recognize the signs of a Soldier at-risk for suicidal behavior.	66	3	6
6. Because of ASIST, I feel more confidenct in my ability to help those at-risk of suicide.	66	3	6
7. ASIST should be given to all personnel that interact closely with Soldiers.	67	2	6

d. Additional survey analysis. Four hypotheses were examined for statistical significance.

1) Was there a significant difference in the length of the ASIST programs at the individual installations?

2) Was there a significant difference in the length of ASIST programs attended in terms of Principal Duty Title?

3) Was there a significant difference in the Principal Duty Title and the place where the ASIST was taken?

4) Was there a significant difference in the distribution of responses for Principal Duty Title and installation where ASIST was attended, and length of ASIST program attended?

e. Statistical significance. There was a slightly significant difference ($p=0.04$) between the length of ASIST program attended and the post where it was attended. This difference was attributed to the focus on "master trainer" training at Site 3. No other statistically significant differences were observed.

9. Other project outcomes.

a. Cost avoidance. Based on a graduation rate increase of 45 Soldiers at Site 2, the Army avoided training costs of $1.4 million for those Soldiers who were retained (based on FY02 training costs of $31.4K per Soldier).

a. Leadership benefits. Project benefits for leadership included reduced incidence of crisis behavior, including Away Without Leave (AWOL); fewer training interruptions; and increased confidence of cadre, leaders, and others to refer at-risk Soldiers. Skills learned from the ASIST

program also helped leaders and cadre better assess Soldier coping skills and make referrals when necessary.

b. Soldier benefits. Project benefits for Soldiers included: support availability when and where it was needed; skills taught to trainees which would enable them to succeed at their next duty assignment; decreased stigma attached to help-seeking behavior; increased knowledge of Army support programs and agencies; better developed support systems; improved coping skills to handle the stresses of military life; and successful completion of AIT/IET training.

c. Health care provider benefits. These benefits included a reduced burden on mental health personnel and other providers; a reduction in unnecessary referrals to mental health providers due to false positives; and reduced sick call visits.

d. Community benefits. Communication between Military Treatment Facility (MTF) personnel, chaplains, line command, cadre, aid stations, Army Community Services (ACS), and other installation agencies resulted in improved implementation of the Army Suicide Prevention Plan.

10. Questions for further study.

a. Resiliency. More information is needed to determine the most effective methods for teaching Soldiers resiliency and life-coping skills.

b. Evidence base. More research is needed to develop indicators of suicide prevention program effectiveness. In addition, research is needed to determine if these indicators of program effectiveness differ between civilian and military populations.

c. Comprehensive approach. A comprehensive, community-wide prevention strategy is needed to address the social, behavioral, and health issues that influence suicide. More information is needed to determine which issues are most critical to suicide prevention in a military environment and to determine the best ways to deliver this strategy.

d. Implementation of leadership/gatekeeper training. More information is needed to determine the effectiveness of leadership/gatekeeper suicide prevention training. In addition, more information is needed to determine ways to improve the effectiveness of this type of training.

e. Support methods. One project site reported good success with support groups for Soldiers identified as being at-risk. More information is needed to determine the effectiveness of these support groups (as opposed to individual counseling), and also to determine what curriculum content would be most effective for these groups.

10. References.

(1) Management of Recruit Suicide, in Recruit Medicine (Textbooks of Military Medicine). Bernard DeKoning, editor. Washington, DC: Borden Institute; 2006: 311-356.

(2) The Surgeon General's call to action to prevent suicide. Department of Health and Human Services. Washington (DC): Department of Health and Human Services; 1999. Available online from: URL: http://www.surgeongeneral.gov/library/calltoaction/default.htm.

11. Other resources.

SPAN USA, Inc. (2001). *Suicide Prevention: Prevention Effectiveness and Evaluation*. SPAN USA**,** Washington, DC. Available online from: URL: http://www.sprc.org/library/prevtoolkit.pdf.

Suicide: Overview, National Center for Injury Prevention and Control. Available online from: URL: http://www.cdc.gov/ncipc/factsheets/suicide-overview.htm.